WHAT IS CLAIMED IS:

1. An image forming apparatus comprising:

an image bearing member;

charging means for electrically charging said image bearing member while contacting to said image bearing member;

transferring means for transferring a developed image on said image bearing member onto a transfer material;

developer charging means for electrically charging a developer remaining on said image bearing member after the image is transferred, said developer charging means being disposed downstream of said transferring means and upstream of said charging means with respect to a moving direction of said image bearing member; and

electric field forming means for forming a cleaning electric field in a direction of transferring the developer from said developer charging means onto a predetermined region of said image bearing member and for forming a cleaning electric field for transferring the developer from said charging means onto said image bearing member after the predetermined region of said image bearing member passes through a contact portion between said charging means and said image bearing member.

2. An apparatus according to Claim 1, wherein when said cleaning electric field for said developer charging means is formed, said developer charging means is supplied with a voltage which is different from a voltage applied to said developer charging means during image formation, and wherein when said cleaning electric field for said charging means is formed, said charging means is supplied with a voltage different from a voltage applied to said charging means during image formation.

3. An apparatus according to Claim 1, wherein when the predetermined region of said image bearing member is contacted by said charging means, a potential of said charging means is a ground potential.

4. An apparatus according to Claim 1, wherein said charging means is in the form of a rotatable roller, and said cleaning electric field of said charging means is formed by application of an AC voltage to said charging means for not less than a time duration corresponding to one full turn of said charging means.

5. An apparatus according to Claim 4, wherein a peak-to-peak voltage of said AC voltage is changed

after said roller rotates through not less than one full turn.

6. An apparatus according to Claim 1, wherein the cleaning electric field for said charging means is formed by application of an AC voltage without application of a DC voltage.

7. An apparatus according to Claim 1, wherein the cleaning electric field for said charging means is formed by changing a peak-to-peak voltage applied to said charging means so as to be different from that during the image formation.

8. An apparatus according to Claim 1, wherein said developer charging means has a brush of electroconductive resin fibers contactable to said image bearing member.

9. An apparatus according to Claim 1, wherein the cleaning electric field for said developer charging means is formed by application of a pulse voltage to said developer charging means.

10. An apparatus according to Claim 9, wherein the pulse voltage is formed by switching a DC voltage.

11. An apparatus according to Claim 1, wherein the cleaning electric fields for said developer charging means and said charging means are formed during a pre-rotation period of said image bearing member from actuation of a voltage source of said image forming apparatus to a stand-by state, or during a post-rotation period of said image bearing member from completion of an image forming process to stop of image forming apparatus.

12. An apparatus according to Claim 1, wherein applications of the cleaning electric fields for said developer charging means and said charging means are carried out on the basis of a number of printed transfer materials.

13. An apparatus according to Claim 1, wherein applications of the cleaning electric fields for said developer charging means and said charging means are carried out on the basis of formed pixel numbers.

14. An apparatus according to Claim 1, further comprising exposure means for forming a latent image by exposure of said image bearing member charged by said charging means, and

the cleaning electric fields for said developer charging means and said charging means are

formed when an integrated exposure time of said exposure means reaches a predetermined level.

15. An apparatus according to Claim 1, wherein the developer transferred onto the predetermined region of said image bearing member is collected by developing means for developing the image on said image bearing member.

16. An apparatus according to Claim 1, wherein the developer transferred onto the predetermined region of said image bearing member is collected to said transferring means by electric field.

17. An apparatus according to any one of Claims 2-16, further comprising a plurality of image forming means each comprising said image bearing member, said charging means and said developer charging means, feeding means for feeding the transfer material to transfer portions of said image forming means, wherein the developer transferred onto the image bearing member of each image forming means is transferred onto the same position of said feeding means to which the transfer material is not feeding by the image forming means.

18. An apparatus according to Claim 17, wherein

the developer transferred onto the same position of said feeding means is collected in a feeding means cleaning operation for removing the developer from said feeding means.

19. An apparatus according to Claim 17, wherein said feeding means includes a conveyer belt.

20. An apparatus according to Claim 17, wherein said feeding means is in the form of a feeding drum.

21. An apparatus according to any one of Claims 2-16, further comprising a plurality of image forming means each comprising said image bearing member, said charging means and said developer charging means, wherein said transferring means includes primary transferring means for primary transfer of the developed image from said image bearing member onto an intermediary transfer member, and a secondary transferring means for transferring the developed image transferred onto said intermediary transfer member onto the transfer material, and the developer transferred onto said image bearing member of each image forming means is transferred onto a same position of said intermediary transfer member by said image forming means.

22. An apparatus according to Claim 21, wherein the developer transferred onto the same position of said intermediary transfer member is collected during intermediary transfer member cleaning operation for removing the developer from said intermediary transfer member.

23. An apparatus according to Claim 21, wherein said intermediary transfer member is in the form of a transfer belt.

24. An apparatus according to Claim 21, wherein said intermediary transfer member is in the form of a transfer drum.